

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(s): Blattner et al. CONF. NO.: 7154
SERIAL NO.: 10/628,980 ART UNIT: 3652
FILING DATE: 07/29/2003 EXAMINER: Lowe,
Michael S.

TITLE: RETICLE MANIPULATING DEVICE
ATTORNEY
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Board of Patent Appeals and Interferences
United States Patent and Trademark Office
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**RESPONSE TO NOTIFICATION OF
NON-COMPLIANT APPEAL BRIEF**

This is in response to the Notice of Non-Compliant Appeal Brief in regard to the above-identified patent application. An "Amended Appellant's Brief" is being submitted herewith addressing the deficiencies indicated in the Notice of Non-Compliant Appeal Brief.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences regarding this application.

III. STATUS OF CLAIMS

Claims 1 and 3-28 are pending in the application.

Claim 2 is cancelled.

Claims 8, 10-12, 19 and 20 are withdrawn from consideration.

Claims 1, 3-7, 9, 13-18 and 21-28 have been finally rejected.

The claims on appeal are 1, 3-7, 9, 13-17 and 21-28.

IV. STATUS OF AMENDMENTS

Since the final rejection of March 20, 2006, one amendment filed on August 21, 2006 has not been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 recites a reticle manipulating device 1, 101 (Figs. 1 and 23-24) with an at least substantially closed housing 2 for maintaining clean-room conditions inside the housing (page 8, lines 8-10), which has several functional units 8, 8', 8a, 8b, 20 (page 3, line 19 - page 4, line 1; page 9, lines 1-33; page 11, lines 1-7; page 11, lines 26-29; page 14, lines 4-7; page

20, lines 5-24; Figs. 1, 2, 5, 6, 17, 18 and 19), each of which conducts at least one function for the reticle 12 inside the housing. A first functional unit is designed as an input/output station 7 with an opening 9 through which reticles 12 are introduced and discharged in and out of the housing 2 (page 9, lines 24-33). A manipulating device 18 also is arranged inside the housing 2 for transferring the reticles 12 from the input/output station 7 to at least one other functional unit 8, 8', 8a, 8b, 20 and vice versa (page 10, lines 19-33). The device is characterized by an interface (page 4, lines 3-21) of the first functional unit, by means of which the first functional unit can be connected to the reticle manipulating device, the interface having a mechanical and an electrical part (page 4, lines 3-21) forming a detachable mounting and electrical connection 26b (page 11, line 33 - page 12, line 14; Fig. 6a) of the first functional unit with the housing 2 of the reticle manipulating device (page 9, lines 13-22).

Claim 9 recites that a reticle manipulating device 101 (page 24, lines 17-19; Figs. 1, 2 and 23-24) comprises a housing 3, 102, 102A capable of having a controlled environment therein (page 8, lines 8-10), at least one processing module 112, 112A, 116 (page 24, lines 19-23; page 26, lines 20-31) connected to the housing 102 (page 24, line 24 - page 25, line 5) and capable of processing a reticle 12 and a transport apparatus 114, 118 connected to the housing 2 for transporting the reticle 12 between the at least one module 112 to another portion of the housing 2 (page 26, lines 4-20; Fig. 23 and 24). The at least one module 112A is removably connectable to the housing 102A. The at least one module 112A has an interface 108A adapted for removably coupling the module 112A to the housing 102A, and

characterized in that the at least one module 112A is selectable for connection to the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing (page 27, line 5 - page 28, line 7; page 33, line 7 - page 34, line 21; Figs. 24 and 25).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Are claims 1, 3-7, 9, 13-18, 21-28 indefinite under 35 U.S.C. 112 second paragraph?
2. Are claims 1, 3-7, 9, 13-17, 24-26, 28 unpatentable under 35 U.S.C. 102 as being anticipated by Foulke et al., U.S. Patent 6,690,993 (hereinafter "Foulke")?
3. Are claims 21-25, 27 and 28 unpatentable under 35 U.S.C. 103 as being obvious over Foulke?

VII. ARGUMENT

A. 35 U.S.C. 112, Second Paragraph

1. Claim 1

Claim 1 is definite under 35 U.S.C. 112, second paragraph.

The test for definiteness under 35 U.S.C. §112, second paragraph is whether a person skilled in the art would understand the claim language in light of the specification and drawings. Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 1 USPQ2d 1081

(Fed. Cir. 1986). Definiteness of the claim language must be analyzed, not in a vacuum, but in light of the content of the application disclosure (MPEP 2173.02).

The Examiner states that it is unclear in claim 1 as to what is being referred to by the word "which" on lines 3 and 4. It is clear from reading the language of the claim that the word "which" on line 3 refers to subject of the sentence, i.e. the reticle manipulating device. It is also clear that the word "which" on line 4 refers to the several functional units as the claim language recites "several functional units, each of which conducts at least one function".

The Examiner states that it is unclear what is meant by "is hereby" in the phrase "is hereby characterized". Applicants note that this language is commonly used in claims written for European applications, such as the priority document. There is nothing indefinite about this language and the structure of the language clearly indicates that it is the device that "is hereby characterized". Applicants submit that the "is hereby", language of claim 1 creates no confusion and would be clearly understood. This rejection should be withdrawn.

The Examiner states that the words "by means of which" and "can be connected" in claim 1 are vague and leaves unclear what is positively claimed and what item is referred to. Applicants again note that, as stated above, the only test for definiteness is whether the claim language would reasonably appraise one skilled in the art as to the scope of the claim when reading the claim language in light of the specification and drawings. Claim 1 language is very clear on its face and clearly identifies the scope of the claim. The relevant portion of

claim 1 (forming the basis of the Examiner's rejection) recites "an interface of the first functional unit, by means of which the first functional unit can be connected to the reticle manipulating device..." This claim language would clearly appraise one skilled of the scope of what is being claimed. This language creates no confusion. To meet the definiteness criteria under 35 U.S.C. 112 second paragraph the claim language need not be only in the form of "element A has feature B..." as is otherwise being required by the Examiner. The language of claim 1 satisfies the indefiniteness test under 35 U.S.C. 112 second paragraph. Claim 1 is not indefinite, and the rejection should therefore be withdrawn.

2. Claim 3

Claim 3 is definite under 35 U.S.C. 112, second paragraph.

The Examiner states that it is unclear as to what is being referred to by "an input/output station" in line 3 of claim 3. However, the claim actually recites "the input/output station", which is very clear. Antecedent basis for "the input/output station" in claim 3, exists in claim 1, line 6 as acknowledged by the Examiner. Similarly, the Examiner rejects the claim on the basis of the words "each time" and "a basic grid size". This language no longer appears in the claim. Applicants note that claim 3 was previously amended and overcomes the rejection made in the Office Action of 7/26/05. The Examiner appears to have repeated the comments from this previous Office Action without considering the amendments that have already been made to the claim. Claim 3 is not indefinite, and the Applicants again request that the rejection be withdrawn.

3. Claim 9

Claim 9 is definite under 35 U.S.C. 112, second paragraph.

The Examiner states that language such as "selectable" is unclear because it is undefined. The Examiner is wrong, and is here again misapplying the definiteness test under 35 U.S.C. 112 second paragraph. Claim 9 recites that "the at least one module is selectable for connection to the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing" (emphasis added). The definiteness criteria of 35 U.S.C. 112, second paragraph, only requires that a person skilled in the art would understand the claim language and the scope of what is being claimed when reading the claim in light of the specification and drawings. There is nothing confusing or unclear about the meaning of the noted language, and one skilled in the art would clearly understand its meaning. Further, lines 7-15, on page 33 of the Specification state that "[a]s can be realized from Fig. 25, the device 201 may be selectively configured as desired with any of the different interchangeable modules 209, 216." This is illustrated in Fig. 25. Thus, one skilled in the art clearly would understand the meaning of the noted language in Claim 9, especially if reading the claim language in light of the specification and drawings. The language in Claim 9 may be broad (it appears that the Examiner's statement on page 3 of the Action, "[the claim 9 language] is unclear since it is not defined how and in what manner the modules are 'selectable'", that the Examiner considers the language indefinite because of its breadth). However, breadth of a claim is not to be equated with

indefiniteness. In re Miller, 441 F2d 689, 169 USPQ 597 (CCPA 1971). The scope of the language in claim 9 is very clear. Claim 9 is definite and the rejection should be withdrawn.

B. 35 U.S.C. 102

1. Claim 1

Claim 1 recites a first functional unit designed as an input/output station with an opening through which reticles are introduced and discarded in and out of the housing. Claim 1 further recites an interface of the first functional unit, by means of which the first functional unit can be connected to the reticle manipulating device, the interface having a mechanical and an electrical part forming a detachable mounting and electrical connection of the first functional unit with the housing of the reticle manipulating device. Foulke simply does not disclose or suggest all of the features recited in claim 1.

In Fig. 1, Foulke discloses a reticle storage and management system 10 with enclosure 12 and pod station 32. The pod station 32 has pod openers 32a-32d connected to the side wall of enclosure 12. The Examiner refers to pod openers 32a-d, pod station 128 and pod stocker 118 in Foulke as being input/output stations. Foulke also shows that pod openers/pod station 32a-d, 128 and pod stocker 118 located against [interfaced] with respective enclosures 12, 14. However, Foulke does not show any interface whatsoever having a mechanical and an electrical part forming a detachable mounting and electrical connection for any of items 32a-d, 128 or 118 with the respective housings of the enclosures 12, 14. The bare disclosure of pod openers 32a-d

connected to the system enclosure does not necessarily mean that any of the pod openers 32a-d have an interface with mechanical and electrical parts forming a detachable mounting and electrical connection of the pods to the system enclosure 12. By way of example, though connected to (i.e. interfaced with) the enclosure 12, the pod station 32, and its pod openers 32a-d may not be mounted to the enclosure 12. Rather, the pod station may be supported (or mounted) to the floor or other structure, and merely positioned in contact with or adjacent to the enclosure. Further, even if the pod station 32 is mounted to the enclosure 12, it may not have an interface with a mechanical part that is both detachable and the mounting of the pod station to the enclosure (for example the pod station or pod openers may be integral to the enclosure). Foulke simply fails to disclose anything about the pod station/pod opener interface, and the failure to disclose cannot be considered as a disclosure of any kind.

In the Action, the Examiner points to Figs. 1, 6, 7, 15, and 16 in asserting that an interface forming a detachable mounting and electrical connection is inherent from the bare illustration of a reticle storage and manipulating system with an enclosure 12 having some pod openers connected thereto. This is not correct. To establish inherency, the evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. In re Robertson, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). The fact that a certain characteristic may be present in the prior art is not sufficient to establish the inherency of that characteristic (see MPEP 2112). However, as noted above, a detachable mounting at the interface of pod

opener and enclosure is not inherent. Moreover, a detachable electrical connection of the pod opening station/pod openers to the housing is also not inherent from what is disclosed in Foulke. Therefore, claims 1 and 3-7 are patentable over Foulke and should be allowed.

2. Claim 3

Claim 3 is patentable over Foulke at least because it depends from patentable claim 1. Claim 3 is also patentable over Foulke because Foulke does not disclose that a height of at least one of several input/output units corresponds substantially to a whole-number multiple of another height of another one of the several input/output units, as recited in claim 3. Foulke at best discloses units 32a-d that appear to have the same height, but nowhere does Foulke disclose that this height corresponds substantially to a whole-number multiple of another height of another one of several input/output units. Claim 3 is patentable over Foulke and should be allowed.

3. Claim 4

Claim 4 is also patentable over Foulke, at least because it depends from patentable claim 1. In addition, Foulke does not show a second functional unit, which is different in its construction from the first functional unit, whereby the first functional unit can be exchanged for the second functional unit, as recited in Claim 4. Claim 4 is therefore patentable over Foulke for this independent reason, and should be allowed.

4. Claim 9

Claim 9 recites at least one processing module connected to the housing and capable of processing a reticle, wherein the at least one module is removably connectable to the housing, the at least one module having an interface adapted for removably coupling the module to the housing, and characterized in that the at least one module is selectable for connection to the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing. Foulke does not show all of these features.

First, Foulke does not show a module, capable of processing a reticle, that is removably connectable to the housing. The Examiner states that Foulke shows interchangeable functional units 32a-d, 18, 14, 16, 70, 28 and 121-124. However, none of these indicated items, such as pod openers 32a-d or robot 18, is disclosed as being a module removably connectable to the housing. Second, Foulke does not show an at least one module that is selectable for connection to the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing. Even if, for the purpose of argument, the pod openers 32a-d were removably connectable to the housing and the positions of the stations 32a-d could be interchanged (neither of which features is disclosed in Foulke), Foulke does not disclose the pod stations 32a-d as having different predetermined characteristics. Rather, the stations 32a-d appear to be identical. Moreover, though the pod openers 32a-c have different positions on the enclosure 12, 14, the different

positions of the pod openers at the enclosure come into effect only after or upon connection to the enclosure. Thus, Foulke fails to disclose at least one module selectable for connection to the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing. The Examiner argues on page 9 of the Action that Foulke teaches selecting a module either by control system, robot or operator. This is very different than what is called for in claim 9. Claim 9 calls for selection for connection to the housing. The selection the Examiner refers to is after connection to the housing and has nothing to do with what is called for in Claim 9. Foulke fails to disclose any selection for connection to the housing. Claims 9, 13-17 and 21-28 are patentable over Foulke and should be allowed.

C. 35 U.S.C. 103

1. Claim 21 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 21 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 21 recites that the at least one module is adapted to store the reticle therein, and the reticle is at least one of an extreme ultra violet bare reticle, a 157 mm reticle, an x-ray reticle, or a SCALPEL reticle. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 21 are simply not

disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 21 is patentable and the rejection should be reversed.

2. Claim 22 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 21 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 22 recites that the module has a processor with programming for performing predictive maintenance, tracking the number of times the reticle has been exposed to light, and characterized in that the programming includes historical models for predicting reticle servicing, cleaning or disposal. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 22 are simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 22 is patentable and the rejection should be reversed.

3. Claim 23 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 23 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 23 recites that the at least one module has a control for controlling at least one of a temperature or humidity within the at least one module. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle

storage system 10. The features of claim 23 are simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 23 is patentable and the rejection should be reversed.

4. Claim 24 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 24 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 24 recites that the at least one module is adapted for preconditioning the reticle prior to transfer of the reticle from the at least one module to the other portion of the housing. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 24 are simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 24 is patentable and the rejection should be reversed.

5. Claim 25 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 25 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 25 recites that the at least one module is adapted for gathering particles from the reticle. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 25 are


simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 25 is patentable and the rejection should be reversed.

6. Claim 27 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 27 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 27 recites that the at least one module has a scribing device for scribing indicia on the reticle. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 27 are simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 27 is patentable and the rejection should be reversed.

7. Claim 28 depends from claim 9 and is patentable at least by reason of its dependency. Furthermore claim 28 recites additional features of the at least one module of claim 9 that are not disclosed or suggested by Foulke. Claim 28 recites that the at least one module is adapted for mounting and demounting a pellicle. The Examiner refers to columns 7-8 and Figs 6, 7 and 16 of Foulke in making the rejection of the claim. These cited portions of Foulke merely disclose a computer 80 for controlling the robot 18 and various sensors 77-79 and 96-98 of the reticle storage system 10. The features of claim 28 are simply not disclosed or suggested in this cited passage nor anywhere else in Foulke. Thus, claim 28 is patentable and the rejection should be reversed.

A check in the amount of \$500 is enclosed herewith for the appeal brief fee. The Commissioner is hereby authorized to charge payment for any additional fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

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VIII. CLAIM APPENDIX

The texts of the claims involved in the appeal are:

1. A reticle manipulating device with an at least substantially closed housing for maintaining clean-room conditions inside the housing, which has several functional units, each of which conducts at least one function for the reticle inside the housing, wherein a first functional unit is designed as an input/output station with an opening through which reticles are introduced and discharged in and out of the housing, a manipulating device also arranged inside the housing for transferring the reticles from the input/output station to at least one other functional unit and vice versa, is hereby characterized by an interface of the first functional unit, by means of which the first functional unit can be connected to the reticle manipulating device, the interface having a mechanical and an electrical part forming a detachable mounting and electrical connection of the first functional unit with the housing of the reticle manipulating device.

3. The reticle manipulating device according to claim 1, further characterized in that the input/output station has several input/output units, each of which can be mounted in a detachable manner and has a separate opening for introducing and discharging reticles in and out of the housing, wherein a height of at least one of the several input/output units corresponds substantially to a whole-number multiple of another height of another one of the several input/output units.

4. A reticle manipulating device system, comprising a reticle manipulating device according to claim 1 and at least

one second functional unit, which is different in its construction from the first functional unit, whereby the first functional unit can be exchanged for the second functional unit.

5. The reticle manipulating device system according to claim 4, further characterized by functional units of different functions.

6. The reticle manipulating device system according to claim 4, further characterized by several functional units of the same function.

7. The reticle manipulating device system according to claim 4, further characterized in that a stocking device is provided as a functional unit for the simultaneous intermediate stocking of several reticles inside the housing.

9. A reticle manipulating device comprising:

a housing capable of having a controlled environment therein;

at least one processing module connected to the housing and capable of processing a reticle; and

a transport apparatus connected to the housing for transporting the reticle between the at least one module to another portion of the housing;

wherein the at least one module is removably connectable to the housing, the at least one module having an interface adapted for removably coupling the module to the housing, and characterized in that the at least one module is selectable for connection to

the housing from a number of different interchangeable modules each having a different predetermined characteristic and being capable of connection to the housing.

13. The device according to Claim 9, wherein the at least one module is adapted for cleaning the reticle using at least one of a gas based, a wet based, or electromagnetic radiation based cleaning method.

14. The device according to Claim 9, wherein the housing is capable of holding an inert gas or pressurized gas atmosphere therein.

15. The device according to Claim 9, wherein the at least one module has a detector adapted for detecting at least one of an electric charge on the reticle, or airborne molecular contamination.

16. The device according to Claim 9, wherein the at least one module has a camera for magnified visual inspection of the reticle.

17. The device according to Claim 9, wherein the at least one module has a reader for reading indicia on a pellicle located in the at least one module.

21. The device according to Claim 9, wherein the at least one module is adapted to store the reticle therein, and the reticle is at least one of an extreme ultra violet bare reticle, a 157 nm reticle, an x-ray reticle, or a SCALPEL reticle.

22. The device according to Claim 9, wherein the module has a processor with programming for performing predictive maintenance, tracking the number of times the reticle has been exposed to light, and characterized in that the programming includes historical models for predicting reticle servicing, cleaning or disposal.

23. The device according to Claim 9, wherein the at least one module has a control for controlling at least one of a temperature or humidity within the at least one module.

24. The device according to Claim 9, wherein the at least one module is adapted for preconditioning the reticle prior to transfer of the reticle from the at least one module to the other portion of the housing.

25. The device according to Claim 9, wherein the at least one module is adapted for gathering particles from the reticle.

26. The device according to Claim 9, wherein the at least one module is adapted for buffering one or more reticles.

27. The device according to Claim 9, wherein the at least one module has a scribing device for scribing indicia on the reticle.

28. The device according to Claim 9, wherein the at least one module is adapted for mounting and demounting a pellicle.

IX. EVIDENCE APPENDIX

Not applicable.

X. RELATED PROCEEDINGS APPENDIX

Not applicable.